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National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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Refer to:
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Re: ESA Section 7 Consultation for Programmatic Actions in the U.S. Forest Service - Siuslaw National Forest, Salem District Bureau of Land Management (BLM), and Eugene District BLM, that are Likely to Adversely Affect Oregon Coast Coho Salmon within the Oregon Coast Range Province

Dear Messrs. Furnish, Manning, and Williamson:

This responds to your September 17, 1998, letter and biological assessment (BA), addressed to Elizabeth Holmes Gaar, National Marine Fisheries Service (NMFS), requesting formal and informal consultation on programmatic actions on the Siuslaw National Forest (NF), Salem District Bureau of Land Management (BLM), and Eugene District BLM which may affect Oregon Coast coho salmon within the Oregon Coast Range Province.

BACKGROUND

The objective of this biological opinion (Opinion) is to determine whether the programmatic actions of the U.S. Forest Service (USFS) and BLM in the Oregon Coast Range Province are likely to jeopardize the continued existence of the threatened Oregon Coast coho salmon (*Oncorhynchus kisutch*) or result in the destruction or adverse modification of their proposed critical habitat.



The Oregon Coast coho salmon Evolutionarily Significant Unit¹ (ESU) was listed as threatened under the Endangered Species Act (ESA) by the NMFS on August 10, 1998 (63 FR 42587). Critical habitat for Oregon Coast coho salmon was proposed by the NMFS on May 10, 1999 (64 FR 24998). This consultation is undertaken pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR § 402, and constitutes formal consultation for the portion of the listed Oregon Coast coho salmon ESU within the Oregon Coast Range Province. Hereafter, all mention of Oregon Coast coho salmon are in reference to the Oregon Coast Range Province portion of the ESU.

The Land and Resource Management Plan for the Siuslaw National Forest, and the Resource Management Plans for the Salem District BLM and Eugene District BLM, as amended by USDA-FS and USDI-BLM (1994) [hereafter referred to as the Northwest Forest Plan (NFP)], were the subject of a formal programmatic ESA consultation. Consultation was concluded with the issuance of a March 18, 1997, Biological Opinion and Conference Opinion (NMFS 1997a; hereafter referred to as the LRMP Opinion). The LRMP Opinion evaluated the effects of USFS and BLM land management plans on many anadromous salmonid ESUs, including Oregon Coast coho salmon, and consequently provides an important basis for many of NMFS' determinations. At the time the LRMP Opinion was issued, Oregon Coast coho salmon was a proposed species. In a September 29, 1998, letter from William Stelle, Jr. (NMFS) to Robert W. Williams (USFS) and Elaine Y. Zielinski (BLM), the LRMP Opinion was adopted as a biological opinion for Oregon Coast coho salmon.

In addition to compliance with ESA regulations, this Opinion has been prepared in accordance with direction established in the May 31, 1995, interagency agreement for Streamlining Consultation Procedures Under Section 7 of the ESA. An interagency consultation process for implementing the streamlining agreement was jointly adopted by the USFS, BLM, U.S. Fish and Wildlife Service, and the NMFS on August 29, 1995, and revised and updated on February 26, 1997. In response to the direction to ensure early and frequent interagency coordination throughout the consultation process, a fisheries interagency team (referred to as "Level-1 team") with NMFS, USFS, and BLM was formed within the Oregon Coast Range Province. Each project (except projects the action agency determines will have "no effect" on listed species) is reviewed by the Level-1 team. The Level-1 team utilizes the procedures established in NMFS (1996) to determine the effects of proposed actions relative to the environmental baseline at project and watershed scales, using criteria based on the species' biological requirements. Protective measures in addition to those initially included in the proposed actions may be developed during the Level-1 team review.

During the last half of 1996, the Level-1 team reviewed programmatic actions on USFS- and BLM-administered land within the Oregon Coast Range Province. Biological assessments were submitted to the NMFS in November and December, 1996, for conferencing on Oregon Coast coho salmon and

¹For the purposes of conservation under the Endangered Species Act, an Evolutionarily Significant Unit (ESU) is a distinct population segment that is substantially reproductively isolated from other conspecific population units and represents an important component in the evolutionary legacy of the species (Waples, 1991).

Oregon Coast steelhead, proposed for listing (July 25, 1995, 60 FR 38011; and August 9, 1996, 61 FR 41541, respectively) under the ESA. On March 6, 1997, the NMFS issued a conference opinion for on-going (through May 31, 1998) and proposed actions in the Siuslaw NF, Salem District BLM, and Eugene District BLM that may affect, and are likely to adversely affect (LAA), Oregon Coast coho salmon or Oregon Coast steelhead. The expiration date was provided with the intention that the Level-1 team would review the programmatic actions in more detail. At that time, the NMFS determined that Oregon Coast coho salmon did not warrant listing under the ESA (May 6, 1997, 62 FR 24588), so upon expiration of the conference opinion, the action agencies requested reinitiation of conferencing on Oregon Coast steelhead. However, the status of Oregon Coast steelhead under the ESA became candidate (March 19, 1998, 63 FR 13347), and the conference was not warranted. Oregon Coast coho salmon were listed as threatened under the ESA on August 10, 1998 (63 FR 42587). Informal consultation for programmatic actions which NMFS concurred were “not likely to adversely affect” Oregon Coast coho salmon was concluded on September 23, 1998.

The BA documents the environmental baseline at the fourth-field hydrologic unit code² watershed (hereafter referred to as fourth-field basin) scale and effects determinations at the project scale. In addition, the BA provides documentation demonstrating that the projects are consistent with the NFP Aquatic Conservation Strategy (ACS). Because consistency with the ACS is typically analyzed at the fifth-field HUC (watershed) scale, the effects determinations were also analyzed at that scale. Baseline descriptions and effects determinations for each programmatic action proposed in the BA were completed by the USFS and BLM. The Level-1 team collaborated on the project scale and fifth-field watershed scale determinations. The documentation supporting those baselines and effects determinations at each spatial scale are included in the BA and hereby incorporated into this Opinion by reference.

This Opinion concludes that the effects of the USFS and BLM programmatic actions, together with the cumulative effects and effects of the environmental baseline within the Oregon Coast Range Province, are not likely to jeopardize the continued existence of the Oregon Coast coho salmon. The NMFS concurs that implementation of these actions will not result in the destruction or adverse modification of proposed critical habitat for Oregon Coast coho salmon. Incidental take of Oregon Coast coho salmon resulting from the programmatic actions that are the subject of this Opinion is also authorized [see

² Stream drainages can be arranged in nested hierarchies, in which a large drainage is composed of smaller drainages. The USFS and BLM use a system in which these drainages are numbered in a computer data base for analytical purposes. The number identifier of a particular drainage in this data base is called its hydrologic unit code, or HUC. This HUC increases with decreasing drainage area, thus a fourth-field HUC (such as the Siuslaw River basin) is composed of several fifth-field HUCs (such as Wolf Creek, Lake Creek, etc., hereafter referred to as a watershed), and so on. The Northwest Forest Plan determined that the scale of watershed analyses should be 20 to 200 square miles, which often corresponds to a fifth field watershed. Fifth-field watersheds are hierarchal subdivisions of western Oregon river subbasins that were cooperatively delineated by the USFS and BLM to facilitate watershed analysis. Fifth-field watersheds (approximately 20-200 square miles in size) provide a proper context for assessing many processes and features affecting ecosystem function. In this consultation, fourth-field basins are referred to as Section 7 watersheds in the BA.

Incidental Take Statement (ITS)].

PROPOSED ACTIONS

The BA describes the programmatic actions and their potential effects on Oregon Coast coho salmon. Some of the actions in the BA were determined to be “may affect, but not likely to adversely affect” (NLAA) Oregon Coast coho salmon, and the others were determined to be “may affect, and likely to adversely affect” (LAA) this species. The NLAA actions were addressed in a September 23, 1998, concurrence letter from the NMFS. The 17 categories of programmatic actions that were determined to be LAA are the subject of this Opinion. Tailhold permits have been added to the programmatic category “Discretionary Rights of Ways,” as requested in your March 4, 1999, letter to Rick Applegate (NMFS).

The USFS and BLM requested formal consultation on the following 17 programmatic actions that may affect and are likely to adversely affect Oregon Coast coho salmon: road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, discretionary road use permits, discretionary rights of way, near-stream and instream surveys, environmental education with instream activities, pump chances, water withdrawal permits, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance. The ESA implementing regulations define “Effects of the action” as, “...the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline.... Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration” (50 CFR §402.02). The programmatic actions of discretionary road use permits, discretionary rights of way, and water withdrawal permits, fit into the category of interrelated and interdependent actions. Without knowing the details of these interrelated and interdependent actions, the NMFS cannot effectively analyze effects of those programmatic actions. Therefore, the NMFS is withdrawing the programmatic actions of discretionary road use permits, discretionary rights of way, and water withdrawal permits from this consultation. This Opinion will conclude formal consultation on the following 14 programmatic actions: road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, near-stream and instream surveys, environmental education with instream activities, pump chances, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance. Hereafter, all reference to programmatic excludes the categories of discretionary road use permits, discretionary rights of way, and water withdrawal permits.

Although consultation on Oregon Coast steelhead (*O. mykiss*) and sea-run cutthroat trout (*O. clarki clarki*) is not warranted at this time, the Level-1 team agreed that the effect

determinations for the programmatic actions of this Opinion, which are LAA for Oregon Coast coho salmon, are also LAA for Oregon Coast steelhead and sea-run cutthroat trout.

The proposed actions are programmatic, meaning that each category of actions may include a number of individual actions, which, when grouped together, represent a program. Since the individual actions may occur at many individual sites across the landscape (e.g., conifer stand development), on a routine basis (e.g., road maintenance), or sporadically (e.g., requests for road use permits), the Level-1 team felt that these kinds of actions should be assessed programmatically.

Following are descriptions of each programmatic action. In addition to the following descriptions, the Level-1 team developed project design criteria for specific programmatic actions to further minimize the likelihood of impacts to Oregon Coast coho salmon (see BA and ITS).

Road Maintenance

These activities are designed to maintain safety and control, and prevent road erosion and sedimentation. This category includes any road maintenance activities using heavy equipment, including surface maintenance (grading, leveling), drainage maintenance and repair, vegetation management (brushing, limbing, seeding, and mulching), hauling waste or fill for road surfaces or ditches, surface replacement (paving, repaving, chip-sealing, and rocking), small tree or slide removal, snowplowing, dust abatement, and maintenance and repair of structures (relief or channel culverts, bridges). Road maintenance due to storm events such as small slide removal and stabilization or culvert and drainage repair is performed as exigencies arise.

Aquatic Habitat Projects

Aquatic habitat projects are completed for the purpose of restoring spawning, rearing, and migratory conditions in streams and lakes. They are constructed or created within the stream channel or the immediate floodplain to improve aquatic habitat, channel stability or fish passage, and the maintenance thereof. Projects include the placement of large woody debris (LWD) (whole trees or portions of trees), boulders and gravel into the channel, excavation of side channels and alcoves, and stream bank and channel stabilization. Project access roads are rehabilitated with techniques which include seeding, waterbarring, ripping, and blocking. Fish passage improvements include the replacement of barrier culverts with passable culverts, pipe-arches, or bridges; construction of fish ladders and placement/construction of sills (boulder, wood, concrete) to improve access to culverts. Work may be accomplished using manual labor, heavy equipment, or helicopters, and may involve the use of this equipment in the stream channel.

Trail Maintenance and Construction

Trail maintenance is implemented to improve safety, prevent erosion, and prevent damage to resources. Trails are constructed in response to recreational use. This category covers trails which are primarily for hiking or equestrian use. Trail maintenance and reconstruction of existing trails involves actions such as removing leaning and down trees from the trail, diverting erosive water off trails (e.g. waterbars,

drain dips, culverts), repair of erosion sites (addition of gravel or logs in wet sites), construction/improvements to stream crossings, brushing, improving the tread, and constructing and maintaining rock crib walls to support unstable trail sections. Trail construction includes construction of new trails and the relocation or extension of existing trails. This category does not include actions which are not directly related to the repair or construction of trails or trail stream crossings. It does not include maintenance or construction of trails for motorcycle/off-highway vehicle use.

Meadow Maintenance

This is done in limited, localized areas, mainly to enhance food resources and habitat for elk. Meadows, some of which are adjacent to streams, are maintained in early seral stages by mowing and burning.

Road Decommissioning and Obliteration

This category includes the removal of those elements of a road that reroute hillslope drainage and present slope stability hazards from unnecessary, unstable, or poorly located roads. It also includes dispersed recreational campsite removal. This category includes actions such as bridge and culvert removal, removal of asphalt and gravel, subsoiling of road surfaces, outsloping, waterbarring, fill removal, sidecast pullback, revegetating with native, non-native, or non-evasive species, and roadway barricading to exclude vehicular traffic.

Repair of Storm Damaged Roads

These projects are implemented to maintain safety, open access and prevent further damage to resources resulting from storm related damage to roads. Projects involve action such as the removal of large slides; reconstruction, repair, or relocation of roads damaged by surface erosion, high streamflows, fill failure, culvert failure, and landslides; stabilization of slopes; and the repair or replacement of bridges and culverts. Work is accomplished using heavy equipment and may occur in the wet season and involve work in the stream channels.

Near-stream and Instream Surveys

These are surveys to assess stream condition, aquatic invertebrate populations, plant, wildlife and other resources in adjacent riparian areas. This program consists of walking surveys done in and near streams, and includes aquatic habitat inventory, and botany, mollusk, amphibian, cultural resource (including test pits: test pits are approximately 1 square meter in size), and riparian vegetation surveys and monitoring. Near-stream surveys refers to surveys done on stream banks or within 25 feet of stream reaches with proposed or listed fish species. This category includes snorkeling and spawning surveys, but does not include direct capture (traps, seines, gill nets, etc.) or electrofishing.

Environmental Education with Instream Activities

These are programs that teach people about the life histories of salmon and their place in Pacific Northwest culture, other life in streams, the current crisis surrounding declines in runs of these fish, and ways to help alleviate the situation. It includes programs such as Salmon Watch, which

takes classes of school children to look at spawning salmon, and to do other activities like collecting macroinvertebrates and measuring water quality in and along the stream.

Pump Chances

This is for maintenance and use of sites for water withdrawal during prescription burns, emergency fire conditions, or road maintenance. Access to pump chances is maintained by removing brush from trails to access points, trees from helicopter landing sites, and the installation of boulders (or similar) to increase pool depth. Most pump chances are located on fish bearing streams, although typically water for fire is not withdrawn in a given year. Withdrawals are for fire control, dust abatement, and compacting gravel roads.

Firewood Collection

These permits allow members of the public to cut and haul away waste wood from landings, blown down conifers, and live or down alder along roads. Permits are issued for both commercial and noncommercial purposes and are often issued to allow legal removal of logs lying close to roads before they are stolen.

Public Use of Developed Sites and Dispersed Public Use

This allows access to and use of public lands for recreation. Developed recreation sites include campgrounds, day use areas, and interpretive sites. Dispersed public use includes the use of Federal lands for short term camping, fishing, hunting, hiking, boating, wildlife watching, and similar activities other than in developed facilities.

Developed Boat Ramps

This allows lake or river access for the purpose of recreating on surface waters. This includes maintenance and use of developed boat ramps for loading and unloading boats by hand or from trailers, and associated staging and parking areas, docking facilities, and other developments such as picnic or sanitation facilities. The role of developed boat ramps in harvesting sensitive species is not covered by this programmatic assessment.

Non-Riparian Rock Quarries

These provide a source of rock and gravel for use in road construction and maintenance and for other activities such as restoration projects. Activities include drilling, blasting, crushing, and hauling of materials on new or existing roads, and stockpiling material from decommissioned roads.

Infrastructure Maintenance

This is the maintenance of infrastructure improvements in Riparian Reserves for use by the public and for administrative purposes. This includes the maintenance of developments such as campgrounds, interpretive sites, education sites, storage areas, administrative sites, and similar improvements. Maintenance may include activities such as pruning of brush and trees, operation of sewage facilities, maintaining roads and other surfaces, maintaining buildings, and operation of sanitary facilities using

hand tools and power equipment.

The proposed programmatic actions comply with the Record of Decision and Standards and Guidelines of the NFP (USDA-FS and USDI-BLM 1994), the Siuslaw National Forest Land and Resource Management Plan (USDA-FS 1990), the Salem District BLM Resource Management Plan (RMP) (USDI-BLM 1995a), and the Eugene District BLM RMP (USDI-BLM 1995b). In addition, these programmatic actions are consistent with the LRMP Opinion.

BIOLOGICAL INFORMATION

The Oregon Coast coho salmon ESU was listed under the ESA on August 10, 1998 (63 FR 42587). Although there are currently limited data to assess population numbers or trends, the NMFS believes that all coho salmon stocks comprising the Oregon Coast coho salmon ESU are depressed relative to past abundance. The status and relevant biological information concerning Oregon Coast coho salmon are well described in Attachment 1 of the LRMP Opinion, proposed and final rule listings from the Federal Register (July 25, 1995, 60 FR 38011; and May 6, 1997, 62 FR 24588, respectively), and Weitkamp *et al.* (1995).

Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from about 1965 to about 1975 and has fluctuated at a low level since that time (Nickelson *et al.* 1992). Spawning escapements for this ESU may be at less than 5% of abundance in the early 1900s. Contemporary production of coho salmon may be less than 10% of the historic production (Nickelson *et al.* 1992). Average spawner abundance has been relatively constant since the late 1970s, but preharvest abundance has declined. Average recruits-per-spawner may also be declining. The Oregon Coast coho salmon ESU, although not at immediate danger of extinction, may become endangered in the future if present trends continue (Weitkamp *et al.* 1995).

Oregon Coast coho salmon, as with other anadromous salmonids, face numerous and varied influences which affect their productivity. Their present depressed condition is the result of several longstanding, human-induced factors (e.g., habitat degradation, harvest, water diversions, and artificial propagation) that exacerbate the adverse effects of natural environmental variability (drought, floods, and poor ocean conditions). NMFS (1997b) identifies and discusses the following freshwater factors that contribute to the decline of coho salmon: changes in channel morphology, substrate changes in streams, loss of instream roughness, loss of estuarine rearing habitat, loss of wetlands, loss/degradation of riparian areas, water quality degradation, changes in flow, blockage/passage impediments, elimination of habitat, direct take, and cumulative effects. Evidence exists of genetic differentiation within this ESU, although currently there is no clear geographic pattern to this differentiation (Weitkamp *et al.* 1995).

CRITICAL HABITAT

Critical habitat for Oregon Coast coho salmon was proposed by the NMFS on May 10, 1999 (64 FR 24998), and includes Oregon coastal river basins (freshwater and estuarine areas) between Cape Blanco and the Columbia River. Freshwater critical habitat includes all waterways, substrates, and adjacent riparian areas—areas adjacent to a stream that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter—below longstanding, natural impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) and several dams that block access to former coho salmon habitat.

EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by its implementing regulations (50 CFR § 402). When the NMFS issues a conference or biological opinion, it uses the best scientific and commercial data available to separately determine whether a proposed Federal action is likely to: (1) jeopardize the continued existence of a proposed or listed species, and/or (2) destroy or adversely modify a proposed or listed species' critical habitat.

Attachment 2 of the LRMP Opinion describes the criteria the NMFS uses in the jeopardy analysis for USFS and BLM projects within the range of the NFP. In summary, NMFS considers two steps: (1) Is the proposed action in compliance with the standard and guidelines for the relevant land allocations, and (2) Does the proposed action meet all pertinent ACS objectives. Actions meeting these conditions will result in improved habitat conditions, and thereby increase freshwater survival of Oregon Coast coho salmon. Therefore, programmatic actions by the administrative units that comply with NFP standards and guidelines and do not prevent or retard attainment of ACS objectives are not likely to jeopardize Oregon Coast coho salmon (Attachment 2 of the LRMP Opinion).

The NMFS also uses NMFS (1996) to help assess whether actions destroy or modify critical habitat (i.e., habitat alterations that appreciably diminish the value of critical habitat for both the survival and recovery of a listed species). Activities that would destroy or adversely modify a species' critical habitat would also likely jeopardize that species.

Biological Requirements

The biological requirements of Oregon Coast coho salmon are discussed in Weitcamp *et al.* (1995) and the LRMP Opinion. The first step in the method the NMFS uses in applying the ESA standards of Section 7(a)(2) to Pacific salmonids is to define the species' biological requirements that are most relevant to each consultation. The NMFS finds that these biological requirements are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for the survival and recovery of Oregon Coast coho salmon. Individual environmental factors include water quality, habitat access, physical habitat elements, river channel condition, and hydrology. These are measurable variables, with properly functioning values determined by the best available information as those necessary for sufficient prespawning survival and distribution, spawning

success, egg-to-smolt survival, smolt emigration survival and timing, and smolt condition to allow the long-term survival of the species. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of these species.

Action Area

Action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR § 402.02). For the purposes of this consultation, the action area includes those portions of the Siuslaw NF, Salem District BLM, and Eugene District BLM within the Oregon Coast coho salmon ESU and river reaches downstream of the administrative unit boundaries that may be affected by Federal land management activities. The programmatic actions covered in this Opinion cover six fourth-field basins--Nehalem, Wilson/Trask/Nestucca, Siletz/Yaquina, Alsea, Siuslaw, and Siltcoos--within the Oregon Coast coho salmon ESU.

Federal lands comprise 24% (October 6, 1998, pers. comm. between Garwin Yip, NMFS, and Neil Armantrout, BLM) to 28% (819,984 of 2,949,944 acres; October 8, 1998, pers. comm. between Garwin Yip, NMFS, and Mike Clady, Siuslaw NF) of the Oregon Coast coho salmon ESU, and is broken down in the following percentages within each of the fourth-field basins: 0.7% of the Nehalem Watershed (October 5, 1998, pers. comm. between Garwin Yip, NMFS, and Bob Ruediger, BLM); 26% of the Wilson/Trask/Nestucca Watershed; 16% of the Siletz/Yaquina Watershed; 64% of the Alsea Watershed; 52% of the Siuslaw Watershed; and 38% of the Siltcoos watershed (SNF *et al.* 1995).

Environmental Baseline

Due to the large scale of the action area for these programmatic actions, individual fourth-field basins and fifth-field watersheds will have varying levels of importance towards meeting the biological requirements of the ESU in terms of properly functioning freshwater habitat parameters. Overall, the programmatic actions addressed in this Opinion are considered to have only minor effects, if any, to habitat parameters. In evaluating the effects of the programmatic actions, the Level-1 team determined that when effects occur, they will only be short-term and will not degrade the baseline conditions. The Level-1 team’s review and tracking of projects implemented under this Opinion will assure that this assumption is reevaluated within one year.

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem (NMFS and USFWS 1998). The environmental baseline for the action area covered by this Opinion includes the Siuslaw NF, Salem District BLM, and Eugene District BLM within the Oregon Coast coho salmon ESU. There are six fourth-field basins within the Oregon Coast Range Province: Nehalem, Wilson/Trask/Nestucca,

Siletz/Yaquina, Alsea, Siuslaw, and Siltcoos. Due to the programmatic nature of this consultation, the Level-1 team decided to assess the environmental baseline for the programmatic actions at the fourth-field basin scale, using the methodology described in NMFS (1996).

Discussions of baseline conditions for each fourth-field basin contained in this section are necessarily generalized because available assessments of the baseline conditions of the associated fifth-field watersheds or sixth-field subwatersheds were combined to arrive at the baseline condition of each fourth-field basin. Tables 4a-f in the BA provide summaries of the environmental baseline of the fourth-field basins.

The general environmental baseline affecting Pacific salmonids has been described in various documents. FEMAT (1993) provides a regional assessment of aquatic ecosystems within the range of the northern spotted owl (including Oregon Coast coho salmon), particularly with regard to land management actions. Chapter V of FEMAT (1993) focuses on current aquatic habitat conditions and the effects of degraded habitat on fish populations. Page V-2 notes that "[a]quatic ecosystems in the range of the northern spotted owl exhibit signs of degradation and ecological stress." The present depressed condition for coho salmon populations in Oregon is the result of several longstanding, human-induced factors (e.g., habitat degradation, water diversions, harvest, and artificial propagation) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions (August 10, 1998, 63 FR 42587). Aquatic habitat degradation has resulted from a wide range of land- and water-use practices including timber harvest, road construction, mining, grazing, agriculture, construction and operation of dams, irrigation, and flood control (Spence *et al.* 1996). Most of these activities occur on USFS- and BLM-administered lands within the Oregon Coast Range Province.

In general, these activities have: (1) reduced connectivity between streams, riparian areas, floodplains, and uplands; (2) significantly increased sediment yields, leading to pool filling and reduction in spawning and rearing habitat; (3) reduced or eliminated instream replenishment of LWD which serves to trap sediment, stabilize stream banks, form pools, and provide cover; (4) reduced or eliminated vegetative canopy that minimizes stream temperature fluctuations; (5) reduced stream complexity by causing streams to become straighter, wider, and shallower which reduces spawning and rearing habitat and increases temperature fluctuations; (6) altered peak flow volume and timing; (7) altered water tables and base flow; and (8) contributed to degraded water quality by adding toxicants through mining and pest control (FEMAT 1993; Rhodes *et al.* 1994; Spence *et al.* 1996).

In general, the Nehalem, Siletz/Yaquina, Alsea, Siuslaw, and Siltcoos fourth-field basins are characterized by a majority of the habitat indicators not properly functioning. The majority of the Wilson/Trask/Nehalem fourth-field basin is at risk. In combination, for the six fourth-field basins within the Oregon Coast Range Province, four of the habitat indicators were considered properly functioning, 32 of the habitat indicators were considered at risk, and 62 of the habitat indicators were considered

not properly functioning. The following habitat indicators were not properly functioning in all of the fourth-field basins: overall water quality [303(d) reaches], large woody debris, road density and location, disturbance history, and stream influence zone.

In summary, the principle ways in which land management policies have contributed to the decline of salmon habitat include: (1) overemphasis on production of non-fishery commodities resulting in losses of riparian and fish habitat; (2) failure to take a biologically conservative or risk-averse approach to planning land management actions when inadequate information exists about the relationship between land management actions and fish habitat; (3) planning land management activities on a site-specific basis rather than on a broader, watershed scale; and (4) reductions in the number, size, and distribution of remaining high-quality habitat areas (such as roadless and minimally developed areas) that serve as biological refugia for anadromous fish subpopulations (FEMAT 1993; Rhodes *et al.* 1994).

ANALYSIS OF EFFECTS

The BA and supporting information document compliance for each of the programmatic actions with the following critical components of the NFP: standards and guidelines, watershed analysis, watershed restoration, land allocations, and the ACS objectives. The Level-1 team reviewed the categories of programmatic actions and confirmed that they were consistent with the ACS. This is documented in the BA for each of the programmatic actions. Additionally, the Level-1 team found that the subject actions are consistent with the reasonable and prudent measures and terms and conditions of the LRMP Opinion and developed additional project design criteria to further minimize the likelihood of impacts to Oregon Coast coho salmon.

Effects of Proposed Actions

Individual and groups of actions (programs or projects) implemented in accordance with management direction in the LRMPs and RMPs are expected to affect Oregon Coast coho salmon in a variety of ways. Some may result in adverse effects to salmonid habitat, while others are expected to maintain or restore habitat conditions. Because all actions will be designed and mitigated in accordance with the ACS objectives, land allocations, and standards and guidelines, any associated adverse effects (e.g., increased sediment production) are expected to be generally minor in magnitude and short-lived in duration. Chapter V of FEMAT (1993) discusses generally the potential adverse effects of these actions on fish habitat and populations.

The site- and watershed-scale environmental baseline and expected effects associated with individual or groups of projects were evaluated by using the procedures outlined in NMFS (1996; Attachment 3 in the LRMP Opinion). These evaluation methods were designed to ensure that Level-1 teams can efficiently provide adequate information in BAs to evaluate effects of actions subject to ESA Section 7 conferences and consultations. Effects of actions are expressed in terms of the expected effect (i.e.,

restore, maintain, or degrade) on each of 17 aquatic habitat indicators in the project area (site and watershed scales), as described in the Checklist completed for each action.

The evaluation procedures in NMFS (1996) are based on a "Matrix of Pathways and Indicators" (Matrix), a holistic method for characterizing environmental baseline conditions and predicting the effects of human activities on those baseline conditions. The Matrix provides generalized ranges of functional values (i.e., properly functioning, at risk, and not properly functioning) for aquatic, riparian, and watershed parameters. The NMFS acknowledges that generalized values provided in the Matrix may not be appropriate for all watersheds within the range of Pacific salmonids or even within the range of a single ESU. Therefore, we encourage development of more biologically appropriate matrices (referred to as "modified" matrices) in specific physiographic areas. The NMFS, in conjunction with the USFS, BLM, and Oregon Department of Fish and Wildlife (ODFW), has modified the Matrix for the Oregon Coast Range Province (Table 1).

Effect determinations were assigned to the programmatic categories based on the potential for actions within the category to affect Oregon Coast coho salmon or their habitat. All of the individual actions do not necessarily have the same effect as the more general programmatic category. Where or when a particular action occurs may determine whether that particular action is given an effect determination of "no effect," "may affect, NLAA," or "may affect, LAA."

The Level-1 team determined that the effects of the programmatic actions would be the same in each of the fourth-field basins within the Oregon Coast coho salmon ESU. Therefore, individual Checklists for each action, in each watershed, were not prepared. Rather, one Checklist, with the environmental baseline only, was prepared for each fourth-field basin, and one Checklist with only the program effects was prepared for each programmatic action (these Checklists and supporting information are located in the BA).

Since actions were assessed without knowing site-specific conditions, the interagency team assigned what they felt were conservative effect determinations. Most of these actions are considered to have only minor effects on Oregon Coast coho salmon or their habitat. These effects are generally from the potential for minor amounts of sediment to reach streams, loss of LWD, disturbance to riparian vegetation, and/or disturbance to eggs, juvenile, or adult fish. The Level-1 team identified project design criteria in the BA for each programmatic action in order to avoid or minimize any potential adverse affects associated with these activities. Some individual actions covered in a programmatic category may have insignificant, discountable, beneficial, or no effect on Oregon Coast coho salmon.

Individual actions will be analyzed to determine if they fit under one of the programmatic categories addressed in this Opinion. They will also determine if the programmatic effect determination is correct for the individual action. Project files shall document the effect determination and that the project is covered by this programmatic Opinion. If the effect determination is the same as the programmatic effect determination or less (e.g., programmatic effect determination is LAA, and the individual action is

NLAA), no additional consultation is necessary. Although a project may fit within one of the programmatic actions, and is consistent with the effect determination, the action agency has the option of consulting individually on that project. This commonly occurs on projects that are larger in scope than the programmatic intended. All projects covered by this Opinion will be documented on a report form similar to that presented in Appendix 1 of the BA and will be organized by fifth-field watersheds. The Level-1 team will meet as needed to review the reports. If during the review, it is decided that impacts are greater than anticipated, this consultation will be reinitiated to address the impacts (e.g., require Level-1 team review of all actions prior to implementation or addition of more terms and conditions).

Table 1. Matrix of factors and indicators for the Oregon Coast Range Province . Interim Version, revised July 20, 1998.

NOTE: All measures apply to "broad valley floor" reaches (gradient of 4% or less; Rosgen type C channel), and primarily to 3rd- and 4th-order streams. The intermediate At Risk Category includes all situations not described as either Properly Functioning or Not Properly Functioning.

| Factor: Indicator | Properly Functioning | Not Properly Functioning |
|--|---|---|
| Water Quality: 7-day max. temperature | $\leq 60^1$ | $\geq 68^2$ |
| Water Quality: Turbidity | Similar frequency and duration relative to unimpacted streams in the basin | Higher frequency and duration relative to unimpacted streams in the basin |
| Water Quality: Chronic chemical contamination/ nutrient input | No biological evidence of contamination | Obvious biological evidence of contamination (e.g., fish kills, deformed fish, algal blooms) |
| Water Quality: Overall | No CWA 303(d) designated reaches ³ | >1 CWA 303(d) reach ³ |
| Habitat Access | Within the watershed, no barriers created by humans that inhibit upstream or downstream passage of any salmonid life stage to historical habitat | One or more artificial barriers that prevent upstream or downstream passage of any salmonid life stage to historical habitat |
| Habitat Elements: Substrate (use method most appropriate to your data set) N.B., "trouble" reaches flagged by one method also tend to be flagged by the other method | $\geq 50\%$ of riffle habitat is gravel dominated, with very little embeddedness. $\leq 5\%$ of riffles are dominated by fines ⁴ - or - | $\leq 20\%$ of riffle habitat is gravel dominated, or gravel/cobble with large degree of embeddedness. $\geq 10\%$ of riffles are dominated by fines ⁴ - or - |
| | in low gradient riffle, $<10\%$ of substrate is sand or silt ⁴ | low gradient riffle has $>25\%$ sand or silt ⁴ |
| Habitat Elements: Large Woody Debris | ≥ 80 pieces/mile that are 24" diam., 50' long OR that are 1.5 X channel width. No evidence or record of cleanout or mgt. related debris flows ⁵ | ≤ 30 pieces/mile (same size definition as at left). Evidence or record of stream cleanout or mgt. related debris flows ⁵ |

| Factor: Indicator | Properly Functioning | Not Properly Functioning |
|---|--|--|
| Habitat Elements: % of area in pools | Basaltic Headlands: $\geq 35\%$ ⁶ | Basaltic Headlands: $\leq 20\%$ ⁶ |
| | Rest of Province: $\geq 50\%$ ⁷ | Rest of Province: $\leq 30\%$ ⁷ |
| Habitat Elements: Pool Quality | $\geq 20\%$ of habitat units $> 1\text{m}$ deep ⁸ | $\leq 10\%$ of habitat units $> 1\text{m}$ deep ⁹ |
| Habitat Element:: Pool frequency (all pools) | < 8 channel widths between pools ¹⁰ | ≥ 20 channel widths between pools ¹⁰ |
| Habitat Elements: Off-channel habitat | Frequent backwaters with cover, and low energy, off-channel areas (ponds, oxbows) make up $\geq 10\%$ of area | Few or not backwater, off-channel ponds and oxbows make up $\leq 5\%$ of stream area |
| Channel condition/ dynamics: Streambank condition | Relatively stable banks. Few or no areas of active erosion | Highly unstable banks. Many areas of exposed soil & streambank cutting |
| Channel condition/ dynamics: Floodplain connectivity | Logjams and other feature create pools and secondary channels, which trap debris and food and maintain a high water table that provides cool late-season flows. Floodplain well vegetated. | Secondary channels lacking. Unconstrained main channel often downcut to bedrock and relatively short, without pools, meanders, and collections of debris and food. Warm, low, late-season flows. |
| Watershed conditions: Road density/location; drainage network N.B., it was noted that WAs to date have shown road densities to be 2-3 miles per square mile | ≤ 2 miles per square mile. No valley bottom roads (if unstable area, no midslope roads). ¹¹ | ≥ 3 miles per square mile. Some valley bottom roads (if unstable area, some midslope roads). |
| Watershed conditions: Disturbance history | Terrestrial veg. conditions show that watershed is relatively intact | Watershed is fragmented and highly impacted |
| Watershed conditions: Stream influence zone | Zones are relatively intact, with $\geq 80\%$ undisturbed by mgt. & settlement activities | Zones have been substantially altered, with $\leq 60\%$ of these areas undisturbed by mgt. & settlement activities |
| Watershed conditions: Refugia N.B., "Refugia" are implied in the cited reference as: unaltered areas of riverine habitat that continue to function in ways that sustain native species and biotic communities | Habitat refugia exist and are adequately buffered. Existing refugia are sufficient in size, number, and connectivity to maintain viable populations or sub-populations | Adequate habitat refugia do not exist to maintain viable fish populations. |

- ¹ Bjornn, T.C. and D.W. Reiser. 1991. Habitat requirements of salmonids in streams. Pages 83-138 *in* W.R. Meehan (ed.), Influences of forest and rangeland management on salmonid fishes and their habitats. Am. Fish. Soc. Spec. Pub. 19. Bethesda, MD. 751 pages.
- Oregon Department of Environmental Quality. 1995. Temperature: 1992-1994 Water Quality Standards Review. Final Issue paper. Portland, Oregon.
- ² Reiser, D.W. and T.C. Bjornn. 1979. Habitat requirements of anadromous salmonids. Chapter 1 *in* W.R. Meehan (tech. ed.), Influence of forest and rangeland management on anadromous fish habitat in western United States and Canada. General Technical Report PNW-96. Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Portland.
- ³ The Clean Water Act, Section 303(d), requires each state to identify streams, rivers and lakes that do not meet water quality standards. The Oregon Department of Environmental Quality establishes a list of these waters and submits them to U.S. Environmental Protection Agency biennially.
- ⁴ Professional judgement supported by Siuslaw National Forest stream inventory data.
- ⁵ National Marine Fisheries Service. 1996. Making Endangered Species Act determinations of effect for individual or grouped actions at the watershed scale. Environmental and Technical Services Division, Habitat Conservation Branch. August. 28 pages.
- Biological Opinion on Implementation of Interim Strategies for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH). National Marine Fisheries Service, Northwest Region, January 23, 1995.
- ⁶ Siuslaw National Forest. 1995. Cummins/Tenmile Watershed Analysis. Siuslaw National Forest, Waldport Ranger District. February.
- ⁷ Washington Timber/Fish Wildlife Cooperative Monitoring Evaluation and Research Committee. 1993. Watershed Analysis Manual (Version 2.0). Washington Department of Natural Resources.
- ⁸ Personal communications between Siuslaw National Forest personnel and ODFW researchers in the Coast Range.
- ⁹ Siuslaw National Forest. 1994. North Fork Siuslaw Watershed Analysis. Siuslaw National Forest, Mapleton Ranger District. December.
- Reeves, G.H., F.H. Everest, and T.E. Nickelson. 1989. Identification of Physical Habitats Limiting the Production of Coho Salmon in Western Oregon and Washington. USDA Forest Service General Technical Report PNW-GTR-245.
- ¹⁰ Oregon Department of Fish and Wildlife, Research Section. 1993. ODFW Aquatic Inventory Project: Habitat Benchmarks. Corvallis, Oregon.
- ¹¹ Cederholm, C.J., J. Reul, and E. Salo. 1981. Proceedings from the Conference Salmon Spawning Gravel: A Renewable Resource in the Pacific Northwest? Pages 38-74. Report 39. Washington Water Research Center.
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Site-specific analyses indicate that any adverse impacts from the proposed programmatic actions are expected to be of limited extent and duration. The NMFS finds that temporary adverse effects to Pacific salmonids and their habitat may occur with the proposed programmatic actions. The spatial and temporal extent of potential adverse effects which may lead to incidental take is described for each project in the BA. However, in each case, these adverse impacts will not retard nor prevent attainment of properly functioning habitat indicators important to Pacific salmonids at the project scale.

Taking a conservative approach, the following group of actions were determined “may affect, LAA” Oregon Coast coho salmon: road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, near-stream and instream surveys, environmental education with instream activities, pump chances, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance. Largely, however, the work will not result in adverse effects. Where they do occur, adverse effects are expected to be limited in time, duration and scope, and are expected to be non-significant when analyzed at a fifth-field watershed scale. The potential effects of the above programmatic actions and associated activities on the aquatic environment are summarized below.

Road Maintenance

Road maintenance activities have the potential to deliver sediment into channels, create turbidity, reduce potential LWD, and degrade the stream influence zone (within one site potential tree). Beneficial effects occur where maintenance reduces the potential for catastrophic erosion and sediment delivery to stream channels.

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs, and the removal of LWD. There is also the potential for these actions to have a short-term adverse effect on the drainage network. Road maintenance activities will tend to restore substrate habitat conditions by reducing long-term sediment inputs and can potentially restore habitat access by correcting fish passage barriers associated with roads.

Aquatic Habitat Projects

Since these involve work in the stream, these projects have the potential to deliver sediment, create turbidity, have fuel/oil spills, cause streambank erosion, disturb the stream influence zone, disturb fish, and cause incidental mortality. These projects are expected to provide ecological benefits, such as improved spawning and rearing habitat, while recovery of natural processes occur.

These actions may cause a short-term degradation of water quality due to sediment inputs and chemical contamination. Streambank condition and habitat substrate may also be adversely affected in the short-term. Aquatic habitat projects will tend to restore habitat conditions by improving water temperature, habitat substrate, LWD, pool frequency and quality, off-channel habitat, refugia, width/depth ratio of the stream, streambank condition and floodplain

connectivity in the long-term. There is also a potential for these actions to restore habitat access by correcting fish passage barriers.

Trail Maintenance and Construction

Trail maintenance and construction have the potential for sediment delivery to streams, create turbidity, disturbance at stream crossings or when trails are near streams, and chemical contamination. Beneficial effects occur where maintenance reduces potential adverse impacts to stream channels (e.g., lessens streambank erosion).

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs and chemical contamination. They also have the potential to adversely affect LWD and riparian reserves. Trail maintenance activities will tend to restore habitat substrate conditions in the long-term by reducing sediment inputs, and may potentially restore streambank conditions.

Meadow Maintenance

Meadow maintenance prevents recruitment of LWD into channels by maintaining the area in early seral stages, and causes negative effects on functioning of any affected stream influence zones. The extent of meadow maintenance activity within the Oregon Coast Range Province is very limited.

Road Decommissioning and Obliteration

Road decommissioning and obliteration have the potential for sediment delivery to streams and creating turbidity. Long-term beneficial effects result from restoration of hydrologic functions, reduced risk of washouts and landslides, and reduction of sediment delivery to streams.

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs. In the long-term, road decommissioning and obliteration will tend to restore habitat substrate by reducing the risk of sediment delivery to streams and restore fish passage by correcting fish barriers caused by roads. Road decommissioning projects will also tend to restore hydrology by reducing peak flows and reducing the drainage network. Watershed conditions will also be improved as road densities are reduced and riparian reserves are restored. These projects may also potentially improve floodplain connectivity.

Repair of Storm Damaged Roads

Repair of storm damaged roads have the potential for sediment delivery to streams, creating turbidity, reducing potential LWD, and causing incidental mortality. Beneficial effects occur where maintenance reduces potential adverse impacts to stream channels.

These actions may cause a short-term degradation of water quality and habitat substrate due to sediment inputs. There is also the potential for an adverse effect on LWD. In the long-term, repairing damaged roads will restore water quality and habitat substrate by the reducing the risk of large sediment inputs, and may potentially improve habitat access by correcting fish passage barriers.

Near-stream and Instream Surveys

These actions could result in disturbance of fish or crushing of eggs. These actions will maintain current habitat conditions for all habitat indicators.

Environmental Education with Instream Activities

Environmental education can result in trampling of riparian areas and/or harassment of spawning fish. These activities will maintain all the habitat indicators, with a potential for degradation of the riparian reserves.

Pump Chances

Maintenance and use of pump chances can result in disturbance, entrainment, and loss of fish. These activities will maintain current habitat conditions for all habitat indicators.

Firewood Collection

Firewood collection results in removing logs, some from stream influence zones, and subsequent reductions in LWD recruitment into stream channels. Permitted firewood collection reduces the incidences of theft of firewood.

Public Use of Developed Sites and Dispersed Public Use

Public use can result in the alteration of habitat, disturbance of fish, and degradation of water quality. These actions may degrade riparian reserves. They also have the potential to degrade water quality due to short-term sediment inputs and/or chemical contamination. There is also the potential for degradation of habitat substrate, channel width/depth ratio and streambank condition associated with the public use of developed and undeveloped areas near anadromous streams.

Developed Boat Ramps

Use of boat ramps can cause fish disturbance by people and gear entering, leaving, and floating on the water, and the potential for transient turbidity or release of harmful materials into the water. Maintenance of ramps and associated facilities can reduce overall impacts on riparian areas by controlling access and reducing the potential for silt or other impurities that might enter the water. These activities have the potential to degrade water quality due to sediment inputs and chemical contamination.

Non-Riparian Rock Quarries

Rock quarry operation and hauling rocks can result in sediment delivery to streams. Activities associated with non-riparian rock quarries have the potential to cause short-term degradation of water quality and habitat substrate due to sediment inputs.

Infrastructure Maintenance

Adverse effects may result from provision of human access to aquatic habitats, from the potential for periodic short-term degradation in water quality, and potential decreases in vegetation. Beneficial

effects occur when maintenance reduces the potential for water quality degradation and improves the control of human access to waters and riparian areas.

These actions may cause short-term degradation of water quality due to sediment inputs and have the potential to degrade riparian reserves and impact water quality by chemical contamination. Infrastructure maintenance activities also have the potential to restore water quality by reducing chemical contaminant and sediment inputs to streams in the long-term. These activities also may potentially restore habitat substrate, streambank condition and riparian reserves.

Because of the potentially large number and wide geographic range of the activities covered in this Opinion, a continuing tracking of the overall watershed effects associated with these programmatic actions is important. As part of the subsequent Level-1 team review of programmatic actions, the USFS and BLM will report the number of actions within each category at the fifth-field watershed level. This will assist the Level-1 team in monitoring trends in the number and location of certain activities and their impacts on the environmental baseline. The net effects of these activities will be added to the environmental baseline for each fifth-field watershed and will be taken into account in subsequent consultations for any projects in these areas. An annual total of the number of projects covered by this Opinion will also be provided at the fourth-field basin level to allow monitoring of trends across the entire ESU.

Cumulative Effects

Cumulative effects are defined as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR § 402.02). Cumulative effects in the Oregon Coast Range Province are discussed on pages 41-43 of the LRMP Opinion. These respective analyses of the biological requirements, environmental baseline or cumulative effects described above are incorporated herein by this reference.

Gradual improvements in habitat conditions for salmonids are expected on Federal lands as a result of NFP implementation. Significant improvements in Oregon Coast coho salmon production outside of USFS and BLM land is unlikely without changes in forestry, agricultural, and other practices occurring within non-Federal riparian areas. The NMFS is aware that significant efforts, such as OCSRI (1997), have been developed to improve conservation of Coast coho salmon populations on non-Federal land. The NMFS is not aware of any general changes to existing State and private activities within the action area that would cause greater impacts than presently occur to Oregon Coast coho salmon.

Until improvements in non-Federal land management practices are actually implemented, the NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Now that the Oregon Coast coho salmon ESU is listed under the ESA, the NMFS assumes that non-Federal land owners in those areas will also take steps to curtail or avoid land management practices that would

result in the take of those species. Such actions may be prohibited by Section 9 of the ESA, and subject to the incidental take permitting process under Section 10 of the ESA. Future Federal actions, including the on-going operation of hatcheries, harvest, and land management activities will be reviewed through separate Section 7 processes.

In addition, non-Federal actions that require authorization under Section 10 of the ESA would be considered in the environmental baseline for future Section 7 consultations.

SECTION 7(a)(2) DETERMINATIONS

Based on the information and analysis described in this Opinion, the NMFS has determined that implementation of the programmatic actions is not likely to jeopardize the continued existence of Oregon Coast coho salmon. The bases for this determination are the following:

1. The proposed programmatic actions have been determined to be consistent with the NFP ACS objectives (as documented in the BA). These actions have also been determined to be consistent with the terms and conditions of the LRMP Opinion.
2. Some of the programmatic actions described in this Opinion will result in long-term improvement of habitat conditions for Oregon Coast coho salmon. Degradation of habitat conditions, where applicable, is generally short-term and of limited scope.
3. Because programmatic actions addressed in this Opinion may result in more than a negligible likelihood of incidental take, the Level-1 team has developed a set of project design criteria (reiterated as terms and conditions in the ITS, below) to minimize the likelihood of incidental take.
4. The Level-1 team may review individual proposed actions to determine if action-specific circumstances would necessitate additional measures through reinitiation, to avoid or minimize adverse effects beyond those listed in the ITS of this Opinion.
5. The USFS and BLM will provide the Level-1 team with reports of the total number and net effects of actions in each category by fifth-field watershed to update the environmental baseline. The Level-1 team will monitor trends in the number and location of individual actions and assess overall watershed impacts to the environmental baseline associated with these programmatic actions.
6. If, during the review, the Level-1 team decides that impacts are greater than anticipated, this consultation will be reinitiated to address the impacts (e.g., require Level-1 team review of all actions prior to implementation or add more terms and conditions).

In reaching these conclusions, NMFS has utilized the best scientific and commercial data available as documented herein and by the BA and documents incorporated by reference.

Based upon the BA and Level-1 team review, NMFS concurs that the proposed programmatic actions are consistent with the NFP and its associated components (i.e., the ACS objectives, standards and guidelines, watershed analysis, watershed restoration, and land allocations).

Project type analyses indicate that any adverse impacts from the proposed programmatic actions are expected to be of limited extent and duration. The NMFS finds that temporary adverse effects to Oregon Coast coho salmon and their habitat may occur with the proposed programmatic actions. However, in each case, these adverse impacts will not substantively retard nor prevent attainment of properly functioning habitat indicators important to Oregon Coast coho salmon at the project scale. At the watershed scale, the net effect of the proposed programmatic actions maintains and restores watershed habitat indicators and ecological processes that define the biological requirements of Oregon Coast coho salmon.

Therefore, NMFS concludes that when the effects of these proposed programmatic actions are added to the environmental baseline and cumulative effects occurring in the relevant action areas, they are not likely to jeopardize the continued existence of Oregon Coast coho salmon. In addition, NMFS concludes that the proposed programmatic actions will not result in the destruction or adverse modification of proposed critical habitat for Oregon Coast coho salmon.

REINITIATION OF CONSULTATION

Reinitiation of this consultation is required if discretionary Federal involvement over the action has been retained or authorized and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (4) If a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR § 402.16). The LRMP opinion (page 51) lists examples of situations or findings requiring reinitiation of consultation.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement (ITS) specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

The measures described below are non-discretionary. They must be implemented by the USFS and BLM so that they become binding conditions necessary in order for the exemption in section 7(o)(2) to apply. The USFS and BLM have a continuing duty to regulate the programmatic actions covered in this ITS. If the USFS or BLM (1) fails to adhere to the terms and conditions of the ITS, and/or (2) fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of the Take

The NMFS anticipates that some programmatic actions which are fully consistent with the LRMP and RMP standards and guidelines may still have more than a negligible likelihood to result in incidental take of listed Oregon Coast coho salmon. Incidental take associated with these programmatic actions is expected from detrimental effects on aquatic habitat parameters including substrate quality, turbidity, and suspended sediment levels, all of which may directly affect the life history of these fish.

Adverse effects of management actions such as these are largely unquantifiable in the short-term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though the NMFS expects some low level of incidental take to occur due to these actions, the best scientific and commercial data available are not sufficient to enable the NMFS to estimate a specific amount of incidental take to the species themselves. In these instances, the NMFS designates the expected level of take as "unquantifiable."

This ITS is effective for one year from the date of its issuance. At that time, the NMFS will evaluate the effectiveness of the review and tracking requirements. The USFS and BLM will need to reinitiate this consultation to obtain additional incidental take for the programmatic actions addressed in this Opinion.

Effect of the Take

In this Opinion, the NMFS has determined that the level of anticipated take associated with road maintenance, aquatic habitat projects, trail maintenance and construction, meadow maintenance, road decommissioning and obliteration, repair of storm damaged roads, near-stream and instream surveys, environmental education with instream activities, pump chances, firewood collection, public use of developed sites and dispersed public use, developed boat ramps, non-riparian rock quarries, and infrastructure maintenance is not likely to result in jeopardy to the listed Oregon Coast coho salmon.

Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of Oregon Coast coho salmon resulting from individual actions within the categories of programmatic actions described below.

The USFS and BLM shall:

1. Beneficial Actions (summarized from the LRMP Opinion, pages 64-65)
 - A. Apply the results of watershed analysis, use interagency review processes and consider expected benefits to Oregon Coast coho salmon during the design and prioritization of instream habitat enhancement and restoration projects, culvert replacement upgrades, and road decommissioning actions. To promote long-term ecosystem recovery, actions that restore landscapes and aquatic ecosystem processes should be prioritized over instream habitat enhancement projects that provide short-term benefits.
 - B. Ensure that the timing of any work within intermittent or perennial stream channels associated with these projects is designed to minimize short-term adverse effects to aquatic habitat and Oregon Coast coho salmon.
 - C. Ensure that applicable Best Management Practices (BMPs) are used to minimize short-term adverse effects to aquatic habitat and Oregon Coast coho salmon. Implement appropriate monitoring measures to document compliance with BMPs.
 - D. Assess the associated watershed-scale environmental baseline and effects of each proposed action to ensure that each project is appropriate and timely.
2. Incorporate the project design criteria, as described in the BA and reiterated below as terms and conditions.
3. Document and report all actions that are covered by this ITS.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the USFS and BLM must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary. The USFS and BLM shall do the following:

1. Beneficial Actions (summarized from the LRMP Opinion, page 70)

- A. Provide sufficient documentation of information and criteria used to design and prioritize instream habitat enhancement and restoration projects, culvert replacement upgrades, and road decommissioning actions at the Level 1 project review stage.

- B. Provide sufficient documentation for Level 1 team review to demonstrate that the timing of in-channel work associated with the subject projects will minimize short-term adverse effects to aquatic habitat.
 - C. Provide documentation of compliance with applicable BMPs to supplement larger-scale (e.g., regional) implementation monitoring programs. Documentation of compliance with BMPs shall be aggregated with other monitoring data and included, where possible, in implementation monitoring reports.
 - D. To ensure that proposed projects are appropriate and timely, utilize information and recommendations from completed watershed analysis reports when determining the watershed-scale environmental baseline and effects of proposed actions using the Matrix and Checklist.
2. Incorporate the project design criteria, as described in the BA and largely reiterated below as terms and conditions

Road Maintenance

- Dispose waste in stable sites only.
- Do not dispose waste on active floodplains (approximately 100 feet from the stream channel).
- Leave vegetation in ditches, when possible.
- Where sediment risks warrant, use filter strips (straw bales, or similar, if vegetation strips are not available) – do not create additional diversion potential.
- Maximize maintenance activities during the dry season to avoid wet periods.
- Clean ditches of slide materials.
- Follow the ODFW Guidelines for Timing of In-Water Work, except where the potential for greater damage to water quality and fish habitat exists if the emergency road maintenance is not performed as soon as possible.

Aquatic Habitat Projects

- Follow ODFW Guidelines for Timing of In-Water Work.
- Stabilize potential erosion areas.
- Minimize the number of access points through the riparian areas.
- Minimize time in which heavy equipment is in the stream channel.
- Include an approved spill containment plan.
- Control sedimentation.
- No conifers should be felled in the riparian area unless conifers are fully stocked.
- Ensure culvert removal restores natural drainage pattern.
- Stabilize potential erosion areas.

Trail Maintenance and Construction

- Follow ODFW Guidelines for Timing of In-Water Work.
- Do not remove down wood from site (except to clear trail).

Road Decommissioning and Obliteration

- Dispose waste in stable sites or within existing road prism only.
- Do not dispose fill on floodplain except to restore natural contour of roadbed.
- Leave vegetation in ditches, when possible.
- Maximize activities during the dry season.
- Follow ODFW Guidelines for Timing of In-Water Work.

Repair of Storm Damaged Roads

- Dispose waste in stable sites only.
- Do not dispose waste on active floodplains (approximately 100 feet from the stream channel).
- Maximize activities during the dry season to avoid wet periods.
- When culverts are replaced, design outlets to minimize erosion.
- Follow ODFW Guidelines for Timing of In-Water Work.

Near-stream and Instream Surveys

- Minimize amount of disturbance/stress to fish.
- Avoid walking on fish redds.
- For cultural resource test pits, locate excavated material away from streambank. Replace all material back into pits when survey is complete.

Environmental Education with Instream Activities

- Use a number of streams for trips and adjust use to minimize impacts on any one stream.
- Minimize disturbance to spawning steelhead/salmon while viewing them.

Pump Chances

- A fish biologist shall evaluate it to determine (1) any need for fish screens and passage, and (2) effects on flows and downstream habitat.

Public Use of Developed Sites and Dispersed Public Use

- Limit activities harming riparian vegetation, and fish or their habitat.
- Implement a rehabilitation program where needed.

Developed Boat Ramps

- Manage and maintain ramps and associated areas to limit impacts on vegetation, water quality (including petroleum products), and sediment production.

Non-Riparian Rock Quarries

- Develop and implement an approved site management plan.
- Maintain all road accesses adequately, with seasonal stipulations, if appropriate.
- Minimize sediment to the degree practical and employ sediment control measures where appropriate.

Infrastructure Maintenance


- Manage human activities to reduce impacts on stream or riparian areas.
- Restore riparian vegetation to the degree possible.
- Where chronic problems (e.g. erosion, water quality, or disturbance) exist in key habitat areas, consider relocation and rehabilitation of the site.

3. Reporting Requirements

- A. All projects covered by this Opinion shall be documented on a report form similar to that presented in Appendix 1 of the BA and shall be organized by fifth field watersheds. If a different form is proposed to be used, it shall be presented to the Level-1 team. The Level-1 team shall agree that the form is adequate to document similar information.
- B. The USFS and BLM shall present the results of the reporting to the Level-1 team within one year of issuance of this ITS.

Questions regarding consultation on these actions should be directed to Garwin Yip, of my staff, at (503) 230-5419.

Sincerely,

A handwritten signature in black ink, appearing to read "William Stelle, Jr.", with a stylized flourish at the end.

William Stelle, Jr.
Regional Administrator

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Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the sources of data, information and references used in developing this consultation.

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